

## **MINIMALLY INVASIVE CARDIAC FORCE TRANSFER STRUCTURES**

### **ABSTRACT**

Devices and methods for treating degenerative, congestive heart disease and related dysfunction are described. Minimally invasive surgical force transfer structures offer devices that mitigate changes in the ventricular structure (*i.e.* remodeling) and deterioration of global left ventricular performance related to tissue damage precipitating from ischemia, acute myocardial infarction (AMI) or other abnormalities. These force transfer structures resist diastolic filling pressure while simultaneously transmitting a compressive force to the aorta, the pulmonary artery, the atrium and/or other anatomic structure to improve cardiac output thereby reducing the strain on the heart. In addition, the force transfer structures may compensate or provide therapeutic treatment for congestive heart failure and/or reverse the remodeling that produces an enlarged heart. The force transfer structures are implanted in target heart regions using less invasive surgical techniques involving port access or small incisions into the thoracic cavity to provide a potential, palliative or therapeutic response to the disease.